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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,370	02/07/2002	David Patrick Burks	10008290-1	2560

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
2652	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/072,370	Applicant(s) BURKS, DAVID PATRICK	
	Examiner Michael V Battaglia	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213. ✓

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. Figures 1-3, 4A and 4B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 6, element 350. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of reflective layers (Claim 10, line 2) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures.

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The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

5. Claim 18 is objected to because of the following informality. On line 1 of claim 18, replacing "system of" with -system for- is suggested. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 9 and 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al (hereafter Smith) (US 5,815,484).

In regard to claim 1, Smith discloses an optical medium for storing digital data thereon, comprising: a sequence of binary indicators on a first layer (Figs. 6a-7b, unlabeled top layer equivalent to layer 54 of Fig. 3a); a reflective layer (Figs. 6a-7b, element 156) disposed on the first layer; and a photosensitive layer (Figs. 6a-7b, element 160) disposed on the reflective layer, the reflective layer disposed between the first layer and the photosensitive layer, the photosensitive layer experiencing a perceivable loss of translucence upon exposure to a light source (Col. 9, lines 20-28).

In regard to claim 2, Smith discloses that the photosensitive layer comprises a photosensitive dye (Col. 9, line 64-Col. 10, line 6).

In regard to claim 3, Smith discloses a protective transparent layer (Figs. 6a-7b, element 152), the photosensitive layer disposed between the transparent layer and the reflective layer.

In regard to claim 4, Smith discloses a protective transparent layer (Figs. 6a-7b, elements 152 and 160), the photosensitive layer integrated within the protective transparent layer.

In regard to claim 5, Smith discloses that the transparent layer comprises a thermoplastic (Col. 7, lines 54-55). It is noted that polycarbonate is a thermoplastic (see Citation of Relevant Prior Art below).

In regard to claim 7, Smith discloses that the sequence of binary indicators comprises a sequence of pits and bumps arranged in a spiral pattern disposed on the first surface of the medium (Figs. 6a-8).

In regard to claim 9, Smith discloses that the sequence of binary indicators comprises digitally formatted audio (Col. 6, lines 35-38).

In regard to claim 12, Smith discloses a method of performing a data read from an optical medium (Figs. 6a-7a, element 150) having a sequence of indicators (Figs. 6a-7a, elements 157 and 159) having a binary value assigned thereto, comprising: radiating light onto a surface of the optical medium having the sequence of binary indicators disposed thereon through a photosensitive material disposed (Figs. 6a-7a, element 160) over the sequence (Col. 9, lines 15-17) and causing the translucence of the photosensitive material to decrease (Col. 9, lines 20-24); detecting light reflected from the surface of the optical medium (Col. 9, lines 16-17); and interpreting the reflected light as a binary value (Col. 9, lines 17-18).

In regard to claim 13, Smith discloses that the decrease of the translucence causes the interpretation of at least a portion of the binary sequences to deviate from the binary value assigned thereto at a next data read of the optical medium (Col. 9, lines 24-28 and Col. 13, lines 48-50).

In regard to claim 14, Smith discloses that the decrease of the translucence causes the interpretation of at least a portion of the binary sequences to deviate from the binary value assigned thereto after a plurality of later data reads from the optical medium (Col. 9, lines 24-28 and Col. 13, lines 48-50).

In regard to claim 15, Smith discloses that radiating light onto a surface of the optical medium having the sequence of binary indicators disposed thereon further comprises radiating light onto a surface of the optical medium having a sequence of pits and bumps arranged in a spiral on the surface (Figs. 6a-7a, elements 157 and 159 and Fig. 8).

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In regard to claim 16, Smith discloses radiating light through a protective transparent layer (Figs. 6a-7b, element 152) of the optical medium, the photosensitive material disposed intermediate the protective transparent layer and the surface of the optical medium having the sequence of binary indicators disposed thereon.

In regard to claim 17, Smith discloses radiating light through a protective transparent layer (Figs. 6a-7b, elements 152 and 160) comprising the photosensitive material.

In regard to claim 18, Smith discloses a system (Figs. 1 and 2, element 10) of performing a data read from an optical medium (Figs. 1 and 2, element 50) having a sequence of indicators having a binary value assigned thereto (Figs. 1 and 2, elements 57-59 and Col. 7, lines 21-22 and 28-29), comprising: means (Fig. 2, element 22) for radiating light onto a surface of the optical medium having the sequence of binary indicators disposed thereon through a photosensitive material (Figs. 3a and 3b, element 60) disposed over the sequence and causing the translucence of the photosensitive material to decrease by an appreciable amount (Col. 8, lines 10-13 and Col. 10, lines 3-6); means (Fig. 2, element 44) for detecting light reflected from the surface of the optical medium, and means for interpreting the reflected light as binary zero or one (Col. 7, lines 39-41).

In regard to claim 19, Smith discloses that the decrease of the translucence causes the interpretation of at least a portion of the binary sequences to deviate from the binary value assigned thereto at a next data read of the optical medium (Col. 8, lines 33-39 and Col. 13, lines 48-50).

In regard to claim 20, Smith discloses that the decrease of the translucence causes the interpretation of at least a portion of the binary sequences to deviate from the binary

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value assigned thereto after a plurality of later data reads from the optical medium (Col. 8, lines 33-39 and Col. 13, lines 48-50).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Boling et al (hereafter Boling) (US 4,995,028).

Smith discloses the optical medium according to claim 1 having a first layer that is an outer, protecting layer. Smith does not disclose that the first layer comprises an acrylic.

Boling discloses a first layer (Fig. 2, element g) that is an outer, protecting layer and preferably comprises an acrylic (Col. 19, lines 1-4). Boling teaches that the first layer made of an acrylic provides protection and serves as a good vapor barrier and anti-static surface (Col. 19, lines 4-7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the first layer of Smith to comprise an acrylic as suggested by Boling, the motivation being for the first layer to provide protection and serve as a good vapor barrier and anti-static surface.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Caramico et al (US 6,771, 878).



Smith discloses the optical medium according to claim 1 having a sequence of binary indicators. Smith does not disclose that the sequence of binary indicators comprises moving pictures expert group-2 (MPEG-2) formatted video.

Caramico discloses an optical medium having a sequence of binary indicators comprising MPEG-2 formatted video (Col. 3, lines 16-18). Camico teaches that the MPEG-2 video format is the standard universally accepted for codification and compression of digital video.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the sequence of binary indicators of Smith to comprise MPEG-2 formatted video as suggested by Camico, the motivation being to store films on an optical medium using the universally accepted standard for codification and compression of digital video.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Maeda et al (hereafter Maeda) (US 6,714,510).

Smith discloses the optical medium according to claim 1 having a sequence of binary indicators and reflective layer. Smith does not disclose that further comprises a plurality of sequences of binary indicators; and a plurality of reflective layers each respectively disposed on the first layer having one of the plurality of sequences of binary indicators.

Maeda discloses an optical medium comprising a plurality of sequences of binary indicators (Fig. 1, elements 2 and 5) and a plurality of reflective layers (Fig. 1, elements 3 and 6) each respectively disposed on a first layer (Fig. 1, element 7) having one of the plurality of sequences of binary indicators. Maeda discloses that the recording density of

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an optical medium having a plurality of sequences of binary indicators is increased over the recording density of an optical medium having one sequence of binary indicators (Col. 2, lines 10-14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to comprise the optical medium of Smith with a plurality of sequences of binary indicators and a plurality of reflective layers each respectively disposed on the first layer of Smith having one of the plurality of sequences of binary indicators as suggested by Maeda, the motivation being to increase the recording density of the optical medium of Smith by increasing the number of sequences of binary indicators.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Suzuki et al (hereafter Suzuki) (US 5,039,174).

Smith discloses the optical medium according to claim 1 having a reflective surface. Smith does not disclose that the reflective surface is selected from the group consisting of aluminum and gold.

Suzuki discloses a reflective surface in an optical recording medium that is selected from the group consisting of aluminum and gold (Col. 10, Table 2, Ex. 10) that has improved recording sensitivity and good C/N ratio and durability (Col. 10, lines 28-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the reflective surface of Smith to be selected from the group consisting of aluminum and gold as suggested by Suzuki, the motivation being to use a reflective surface enabling improved recording sensitivity and good C/N ratio and durability.

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*Citation of Relevant Prior Art*

11. Koizumi et al (US 6,501,728) discloses that polycarbonate is a thermoplastic (Col. 4, lines 11-12). Gaston (US 6,609,203) (Figs. 2 and 3), Dailey et al (US 6,228,440) (Fig. 3) and Rollhaus et al (US 6,011,772) (Fig. 12) discloses optical media having a photosensitive layer that experiences a perceivable loss of translucence upon exposure to a light source during reading of the optical medium to prevent unlimited data reproduction.

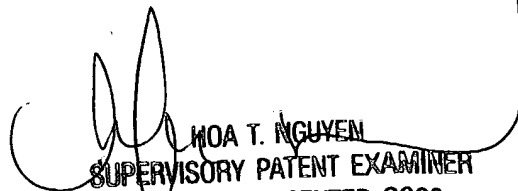
*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Michael Battaglia

  
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9/30/04